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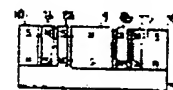
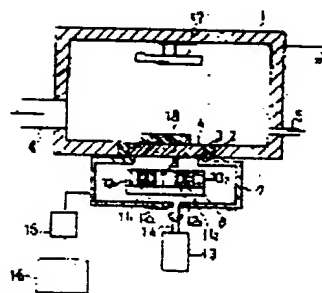
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(54) SEMICONDUCTOR TREATING DEVICE

(57)Abstract:

PURPOSE: To expand a plasma confinement region, to maintain a ferromagnetic field, and to enable the titled device to perform a sputtering or etching efficiency by a method wherein an M-shaped magnetic distribution is formed for plasma at two places located between the N and S poles of the main magnet and also between the N and S poles of an auxiliary magnet which is smaller in size than the main magnet.

CONSTITUTION: A target 18 is set on a cathode 4, and a wafer is set on a chuck part. When high frequency power is applied to a cathode 4 after a chamber 1 is brought into the specific vacuum state by introducing argon gas and the like from an introducing pipe 5, plasma is generated between the case 1, as an anode, and a cathode 4. As main magnets 9, 101 and 102 and auxiliary magnets 111, 112, 121 and 122 having the area ratio of 0.5 for the magnetic field forming surface of the main magnets are provided, the magnetic field of M-shape having a strong magnetic field at two places is formed at the upper part of the target 18. As a result, plasma is confined in the wide region where the magnetic field between the case 1 and the cathode 4 and the magnetic distribution of M-type intersect. Therefore, the target 18 on the cathode 4 can be sputtered efficiently over the wide region. Also, this method can be applied to a magnetron etching device.



LEGAL STATUS

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